UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/680,376	10/07/2003	Paul Marinier	I-2-0411.1US	4627

24374 7590 12/29/2005

VOLPE AND KOENIG, P.C.
DEPT. ICC
UNITED PLAZA, SUITE 1600
30 SOUTH 17TH STREET
PHILADELPHIA, PA 19103

EXAMINER	
KARIKARI, KWASI	
ART UNIT	**PAPER NUMBER**
2686	

DATE MAILED: 12/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	**Application No.** 10/680,376	**Applicant(s)** MARINIER ET AL.	
	Examiner Kwasi Karikari	**Art Unit** 2686	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 October 2003*.
2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.
  4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-9* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on *07 October 2003* is/are: a)☐ accepted or b)☐ objected to by the Examiner.
  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  a)☒ All b)☐ Some * c)☐ None of:
    1.☒ Certified copies of the priority documents have been received.
    2.☐ Certified copies of the priority documents have been received in Application No. _____.
    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
  * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
✓ 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *04/15/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 04/15/2004 is in compliance with the provision of 37 CFR 1.97, has been considered by the Examiner, and made of record in the application file.

Claim Objections

2. Claim 5 is objected to because of the following informalities: Applicant uses "and" at the end of the claimed limitations, that makes claim 5 incomplete. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000.

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1 and 3 are rejected under U.S.C. 102(e) as being unpatentable over Hedlund et al. (U.S. 6,934,268), (hereinafter Hedlund).

Regarding **claim 1,** Hedlund discloses a method for simulating a multi-user slotted communication system, comprising:

selecting a new user requiring at least one time slot (user's equipment requests for power increase or decrease (TPC) per time slot, see col. 4, lines 29-49);

computing, for said at least one time slot, a new interference level as a result of selecting said new user (new downlink power level is estimated on the basis of present power levels and the received TPC command, see col. 5, lines 10-35; and TPC command is associated with signal-to-interference ratio of downlink channels to other user equipments, see col. 6, lines 34-43);

invoking a first algorithm to determine whether said new user should be admitted into the system based upon said new interference level (admission control measures are taken, see col. 9, lines 19-40) and, if said new user should not be admitted, recording a blocking event (TPC command of a selected user equipment is rejected if the estimated total downlink power for each equipment exceeds the maximum permitted power levels, see col. 5, lines 35-50; and a timetable containing status entries of TPC command from each equipment, is use as a basis for congestion and admission control measures, see col. 7, line 53-60) and

allocating applicable slot(s) to said user based upon said interference levels (user equipment's TPC command is accepted as long as the estimated power levels remains below the maximum permitted downlink power levels, see col. 5, lines 35-50);

performing a power balancing of all users in the system (analyzing total allocated power in the network and congestion control measures are taken, see col. 8, lines 21-56); and

determining whether there are additional new users to add to system (decision for admission measures are taken, see col. 9, lines 19-40).

Regarding **claim 3,** Hedlund discloses the method of claim 1, wherein the steps of performing a power balancing of all users in the system further comprises:

computing the interference level of each user (total downlink power at time slot (k+1) is estimated, see col. 5, lines 8-35);

determining whether the interference level of each user exceeds a first threshold (congestion is determined by means of analyzing the number of congestions criterions, and if congestions have been determined, base on the first and second threshold values, in a time slot, an appropriate measures are taken to resolve these congestion, see col. 8, lines 21-41); if so, recording a drop user event (congestion situation is resolved by releasing connection to base station for the selected user equipment; and storing TPC- command rejects for downlink increase, see col. 8, line 63- col. 9,lines 17).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2 and 4-7 are rejected under U.S.C. 103(a) as being unpatentable over Hedlund in view of Mitra (U.S. 5,551,057), (hereinafter Mitra)

Regarding **claim 2,** Hedlund fails to disclose the method of claim 1, wherein the steps of performing a power balancing of all users in the system further comprises:

invoking a second algorithm using the interference levels of all users in the system; and determining whether the slot allocation of any user should be modified and, if so, computing the transmission power of users affected by said modified slot allocation.

Mitra teaches updating routine, which corresponds to the "second algorithm", for regulating the transmission power of a mobile or other transmitting unit (see col. 5, lines 14-41). Mitra further discloses that the co-channnel interference power levels is calculated and the adjusted transmission power of the transmitting unit is based on the calculated power levels (see col. 5, lines 26-41); and the modification of power levels permits an improvement in the system capacity (see col. 6, lines 44-52).

It would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Mitra into the system of Hedlund for the benefit of achieving a system that employs system modification to achieve an improvement in the system capacity where providing system user with power levels that allow accepted data recovery.

Regarding **claim 4,** Hedlund fails to disclose the method of claim 3, wherein the steps of performing a power balancing of all users in the system further comprises updating the transmission power of each user.

Mitra teaches a modification of transmission power of the mobiles that permits improvement in the system capacity while providing for each mobile to transmit signal at power level that allows acceptable data recovery (see col. 6, lines 44-52).

It would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Mitra into the system of Hedlund for the benefit of achieving a system that employs system modification to achieve an improvement in the system capacity where providing system user with power levels that allow accepted data recovery.

Regarding **claim 5,** as recited in claim 4, Hedlund further discloses wherein the steps of performing a power balancing of all users in the system further comprises:

determining whether the transmission power of a user exceeds a maximum threshold and, if so, recording a drop user event;(selected user equipment's TPC-command is rejected if total allocated downlink power exceeds the maximum permitted levels, see col. 5, lines 35-50; and the rejection status of users are indicated on a timetable, see col. 7, lines 49-60).

Regarding **claim 6,** as recited in claim 5, the combination of Hedlund and Mitra further discloses as taught by Hedlund wherein each user has a quality requirement and the steps of performing a power balancing of all users in the system further comprises;

determining whether users meets their quality requirements (operator's minimum assign power level to user and total allocated downlink power at a time slot should be below certain admission threshold levels, see col. 19-40).

Regarding **claim 7,** as recited in claim 6, Hedlund further discloses wherein the steps of performing a power balancing of all users in the system further comprises;

determining whether the total downlink transmission power in a time slot exceeds the allowed maximum power and, if so, dropping the user in the time slot that has the largest transmission power and recording a drop user event (selected user equipment's TPC- command is rejected if total allocated downlink power exceeds the maximum permitted levels, see col. 5, lines 35-50; and the rejection status of users are indicated on a timetable, see col. 7, lines 49-60).

5. **Claims 8 and 9 are rejected under U.S.C. 103(a) as being unpatentable over Hedlund in view of Mitra and further in view of Mintz (U.S. 6,078,812), (hereinafter Mintz).**

Regarding **claim 8,** as recited in claim 7, the combination of Hedlund and Mitra fails to teach wherein determining whether the total user meets the quality requirements further comprise determining whether a third algorithm should be implemented.

Mintz's teaching of the determination to allocate channel for mobile station if excessive interference occurs in the allocated channel (4, lines 50-55), meets the meaning of the claimed limitations of claim 8.

It would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Mintz into the system of Hedlund and Mitra for the benefit of achieving a system that includes Stand Alone Dual Channel Scanner to assist in allocating traffic channels on the basis of interference from external systems.

Regarding **claim 9,** as recited in claim 8, the combination of Hedlund and Mitra fails to teach wherein said third algorithm is an Escape algorithm.

Mintz's teaching of the determination to allocate channel for mobile station if excessive interference occurs in the allocated channel (4, lines 50-55), meets the meaning of the an Escape algorithm in claim 9.

It would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Mintz into the system of Hedlund and Mitra for the benefit of achieving a system that includes Stand Alone Dual Channel Scanner to assist in allocating traffic channels on the basis of interference from external systems.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Furuskar et al. (U.S. 20020102984 A1) teaches a method and apparatus for control quality of service for multiple service through power setting.

Hamalainen et al. (U.S. 20040063434 A1) teaches power change estimation for communication system.

Bruin et al., (U.S. 6,757,542) teaches total radio network solution for GSM/EDGE.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kwasi Karikari whose telephone number is 571-272-8566. The examiner can normally be reached on M-F (8 am - 4pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha D. Banks-Harold can be reached on 571- 272 5905. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kwasi Karikari
Patent Examiner.

CHARLES APPIAH
PRIMARY EXAMINER